

English Translation of the Annex to the IPER

CLAIMS

1. Multi-way adjustment device for adjusting a rest portion of a seat, comprising
a mounting plate (1),
an adjustment part (7) to be coupled with the rest
5 portion of the seat which is mounted so as to be displaceable relative to the mounting plate (1), and
an adjusting unit (6) for displacing the adjustment part (7) relative to the mounting plate (1),
which adjustment part (7) is coupled with mechanical
10 energy storage means (5) in such a way that when the adjustment part (7) is displaced in a first adjustment direction (A) relative to the mounting plate (1), mechanical energy is absorbed by the mechanical energy storage means (5), whereas a movement of the adjusting
15 part (7) in a second adjustment direction (B) relative to the mounting plate (1) is assisted by the release of mechanical energy previously absorbed by the mechanical energy storage means (5).
- 20 2. Multi-way adjustment device as claimed in claim 1, characterised in that
the first adjustment direction (A) is essentially opposite to the second adjustment direction (B).
- 25 3. Multi-way adjustment device as claimed in claim 1 or 2,
characterised in that
the adjusting unit (6) is electro-mechanically operated.
- 30 4. Multi-way adjustment device as claimed in one of the preceding claims,

characterised in that
the adjustment part (7) comprises a first end portion (2)
to be coupled with the rest portion and a second end
portion (4) to be coupled with the mechanical energy
5 storage means (5).

5. Multi-way adjustment device as claimed in one of the
preceding claims,
characterised in that
10 the mechanical energy storage means (5) are coupled on
the one hand with the adjustment part (7) and on the
other hand with the mounting plate (1).

6. Multi-way adjustment device as claimed in any one of
15 the preceding claims,
characterised in that
the mechanical energy storage means has at least one
resiliently elastic element (5) which absorbs mechanical
energy when the adjustment part (7) is displaced in the
20 first adjustment direction (A) and releases mechanical
energy when the adjustment part (7) is adjusted in the
second adjustment direction (B).

7. Multi-way adjustment device as claimed in claim 6,
25 characterised in that
the at least one resiliently elastic element (5) is
designed and disposed so that it is tensioned as the
adjustment part (7) is displaced in the first adjustment
direction (A) and relaxed when the adjustment part (7) is
30 displaced in the second adjustment direction (B).

8. Multi-way adjustment device as claimed in claim 5 or
7,
characterised in that
35 the mechanical energy storage means comprises two

resiliently elastic elements (5), one of which resiliently elastic elements (5) is disposed along a longitudinal side of the adjustment part (7).

5 9. Multi-way adjustment device as claimed in claim 4
and one of claims 6 - 8,
characterised in that
the at least one resiliently elastic element (5) is
coupled on the one hand with the second end portion (4)
10 of the adjusting part (7) and on the other hand with the
mounting plate (1).

10. Multi-way adjustment device as claimed in one of the
preceding claims,
15 characterised in that
the adjusting part (7) is of an elongate design with a
middle portion (3) disposed between a first end portion
(2) and a second end portion (4) and the adjusting part
(7) is mounted so as to be displaceable on the mounting
20 plate by means of the middle portion (3).

11. Multi-way adjustment device as claimed in claim 10,
characterised in that
the first and second end portions (2, 4) of the
25 adjustment device (7) have a bigger width than the middle
portion (3).

12. Seat with a multi-way adjustment device as claimed
in one of the preceding claims for adjusting a rest
30 portion of a seat.

13. Use of a multi-way adjustment device as claimed in
one of claims 1 - 11 for adjusting the rest width of a
seat.
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14. Adjustment device for a cable pull,
with a housing (7), which cable pull (11, 12) is mounted
so as to be displaceable relative to the housing (7), and
having an adjusting unit (6) for displacing the cable
5 pull (11, 12) relative to the housing (7),
characterised in that
the cable pull (11, 12) is coupled with mechanical energy
storage means (5) so that when the cable pull (11, 12) is
displaced in a first adjustment direction (A), mechanical
10 energy is absorbed by the mechanical energy storage means
(5), whereas a displacement of the cable pull (11, 12) in
a second adjustment direction (B) is assisted by the
release of mechanical energy previously stored by the
mechanical energy storage means (5).

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15. Adjustment device as claimed in claim 14,
characterised in that
the cable pull is provided in the form of a Bowden wire
and comprises a wire (12) mounted so as to be
20 displaceable in a sleeve (11), which wire (12) is coupled
with the mechanical energy storage means (5).

16. Adjustment device as claimed in claim 15,
characterised in that
25 the sleeve (11) is supported on the housing (7) of the
adjustment device and the wire (12) is guided in the
interior of the housing (7), where it is coupled with the
mechanical energy storage means (5).

30 17. Adjustment device as claimed in claim 15 or 16,
characterised in that
the first adjustment direction (A) corresponds to a
slackening of the Bowden wire and the second adjustment
direction (B) corresponds to a tensioning of the Bowden
35 wire.

18. Adjustment device as claimed in one of claims 14-17,
characterised in that
the adjusting unit (6) is electrically operated.

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19. Adjustment device as claimed in one of claims 14-17,
characterised in that
the adjusting unit (6) can be manually operated.

10 20. Adjustment device as claimed in one of claims 14-19,
characterised in that the mechanical energy storage means
are coupled with the housing (7) of the adjustment
device.

15 21. Adjustment device as claimed in one of claims 14-20,
characterised in that
the mechanical energy storage means comprise at least one
resiliently elastic element (5) which absorbs mechanical
energy when the cable pull (11, 12) is displaced in the
20 first adjustment direction (A) and releases mechanical
energy when the adjustment part (7) is displaced in the
second adjustment direction (B).

22. Adjustment device as claimed in claim 21,
25 characterised in that
the at least one resiliently elastic element (5) is
designed and disposed so that it is tensioned when the
cable pull (11, 12) is displaced in the first adjustment
direction (A) and relaxed when the cable pull (11, 12) is
30 displaced in the second adjustment direction (B).

23. Lumbar support comprising a Bowden wire coupled
therewith and an adjustment device as claimed in one of
claims 14-22 coupled with the Bowden wire for adjusting
35 the lumbar support by displacing the Bowden wire.

24. Use of an adjustment device as claimed in one of claims 14-22 for adjusting a lumbar support.